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NATURALISTS OF THE FRONTIER

VIII. AUDUBON IN TEXAS

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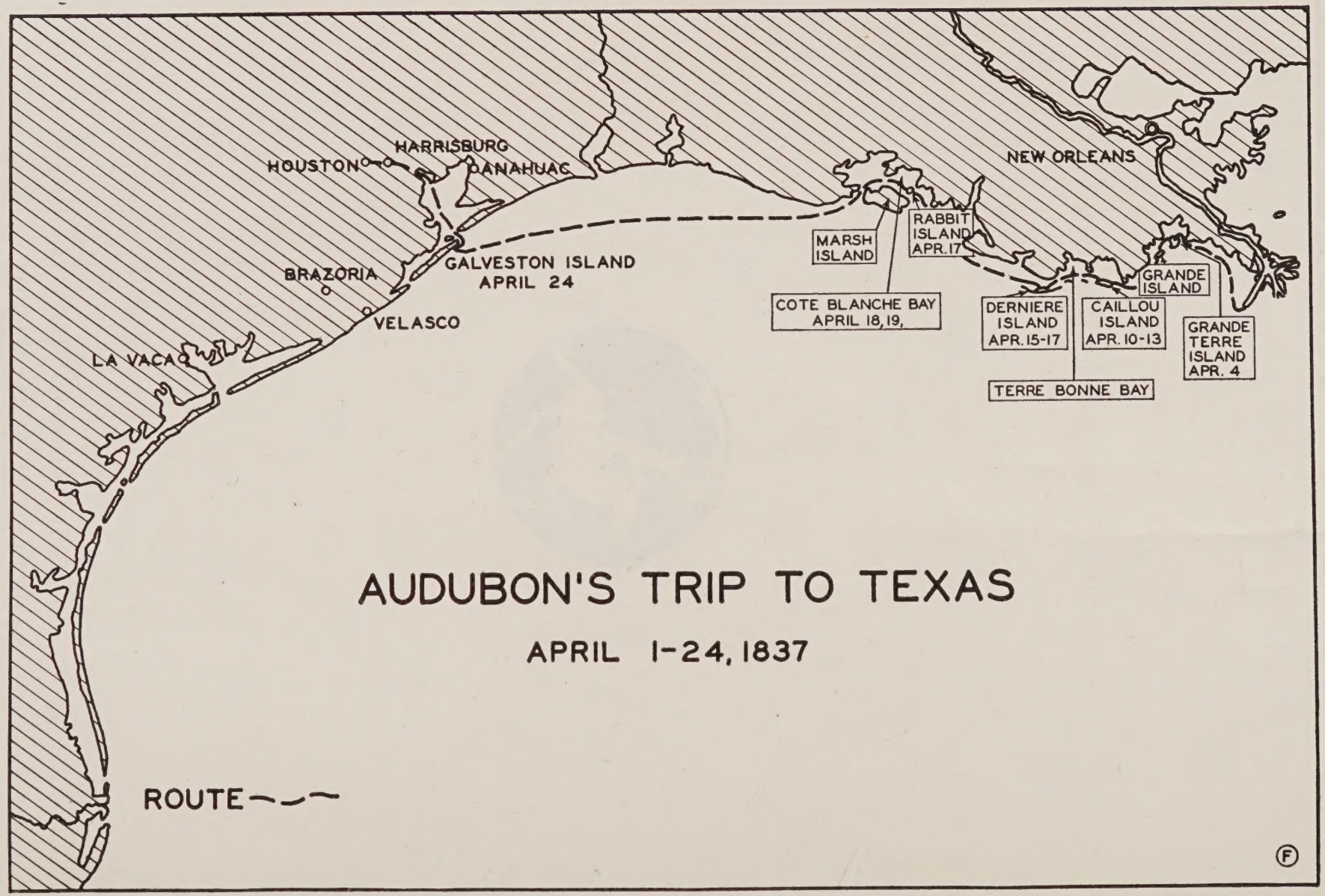

NATURALISTS OF THE FRONTIER

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VIII. AUDUBON IN TEXAS

I

IN HER pioneer period America has produced her full quota of naturalists: picturesque and ardent, luxuriant and genuine. There was that incomparable original, Constantine Samuel Rafinesque of Old Transylvania, whose career will intrigue the interest of curious-minded students of the history of science as long as men shall study natural history; Robert Kennicott, the intrepid collector of animals in the Canadian wilds of the middle of the last century; Gerard Troost, of the University of Nashville, geologist before the Civil War; James Hall, the paleontologist of the New York Geological Survey; and others. But surpassing all the rest "in his enthusiasm, his impressibility, his unworldliness, his simplicity, his love of nature, his good faith . . .", was John James Audubon, the ornithologist. "He suggests and is allied to some of the finest characters in history."[1] His great work on the birds of North America was the first earnest of the repayment of the debt owed by the New World to the Old, for past inspiration and leadership in science. His published work, hailed by Baron Cuvier as the "most magnificent monument that art has ever erected to science", constituted a service to the science of ornithology surpassing perhaps that of any other man that ever lived, and renders him one of the most striking figures of our history.[2]

The life of Audubon has been the object of devoted attention from fellow-naturalists and biographers. Among biographies of him, perhaps the most unfortunately conceived was the first, is-

[1]Burroughs, in the *Nation* [New York], *9*:13 *ff.*, July 1, 1869.
[2]Burroughs, *l.c.*, 1869.

sued in 1868 by Sampson Low, Son & Marston, of London, under the unenlightened editorship of Robert Buchanan. The manuscript which had been furnished to the publishers by the widow of Audubon was by Buchanan pared down to a fifth of its original length. In this compression but little of what Audubon had to say about birds was retained; and the narrative, while it still enjoys popularity as one of the numbers in "Everyman's Library", is distinctly disappointing to the naturalist. For Audubon kept in the most careful manner daily journals of detailed observations, from which he later extracted long comments for his volumes of descriptive works on the birds of America; and these detailed entries would be of value to workers in the field of natural history. There are also apparent in the Buchanan *Life* numerous errors in dates and names. With the hope of correcting many of these omissions and errors, his widow, in 1869,[3] and his daughter, in 1898,[4] issued new biographies of the naturalist. What may be considered the definitive biography of Audubon, however, is perhaps the admirable recent work of Professor F. H. Herrick, published in 1917.[5] In this work is given a discriminating and informing account of this most interesting of American naturalists.

The concern of one interested in naturalists of the Southwestern frontier, however, is the fact that in the course of his wanderings over the face of his world, Audubon made a journey to Texas. It was in the spring of 1837, the year which looms so importantly in the history of Texas. In this year the United States of America recognized the independence which the Texans had won the year before on the field of San Jacinto. The recognition of Texan independence by the sister republic of the north was but preliminary to similar recognition on the part of France, Belgium, and Great Britain. Audubon's visit to Texas, lasting from April 24, 1837, to May 18 of that year, was contemporaneous with the

[3]Audubon, Lucy, *The Life of John James Audubon, the Naturalist.* New York, 1869.

[4]Audubon, Maria R. *Audubon and his Journals.* [With zoölogical and other notes by Elliott Coues.] 2 vols., New York, 1898.

[5]Herrick, *Audubon the Naturalist, a History of his Life and Time.* 2 vols. New York, 1917.

visit to Texas of the first consular representative sent by the British Foreign Office. All in all, Audubon's journey to Texas coincided with a number of events of the greatest significance to our country.

The voyage of Audubon hitherward was also of great importance in the history of American science. In a letter to a correspondent,[6] written after his return from Texas, Audubon stated that his visit to Texas had been unusually fruitful, for although he had collected no new species of birds on the journey, nevertheless "the mass of observations that we gathered connected with the ornithology of our country has, I think, never been surpassed. I feel myself now tolerably competent to give an essay on the geographical distribution of the . . . [birds of America]." The ornithological results were incorporated into Audubon's *Birds of America;* although the original journals have long since perished.[7]

In the present essay, by a careful reading and collation of the descriptive parts of the *Birds of America,* I have attempted to reconstruct the lost journal of Audubon's journey to Texas.[8] Such collation, and the use of such extant contemporary letters as Audubon wrote to correspondents, have made it possible in a slight measure to visualize the travels and experiences of the naturalist on this trip to Texas. The voyage, which began April 1, 1837, at New Orleans, and ended May 25, lasted fifty-four days. In Buchanan's *Life,* for these fifty-four days we have but twenty dated entries—these practically devoid of anything of interest to the naturalist. There is an especial cause for disappointment in Buchanan's book in the fact that the first three weeks are left practically blank; weeks in which Audubon was cruising in and out of the bays and bayous of southern Louisiana —a paradise of birds. It was here that Audubon found some of the finest collecting and observation in all his journey. Galveston

[6] *J. J. Audubon to T. M. Brewer,* June 12, 1837. (*Harper's New Monthly Magazine, 61*:671, Oct., 1880.)

[7] Part of Audubon's journals of his life and travels was lost by fire at Shelbyville, Kentucky; part in a fire in New York, in 1835; and part, as stated above, through the negligence of the publishers of his 1868 biography.

[8] The edition of the *Birds* which I have used is a reprint of the 1840/44 octavo edition, which appeared in seven volumes.

Island also was full of interest to the naturalist, since here he found nesting of birds; but the earlier part of his trip, from April 1 to April 21, was the time in which the birds were making their great migrations. In the reconstruction, when the interests of the connected narrative seemed to demand it, I have taken the liberty of changing in places the wording of the original records, without changing the sense. But I have in every instance indicated by means of references where the full account may be found.

Audubon spent the winter of 1836 with his friend, the Reverend Dr. John Bachman, of Old St. John's Lutheran Church, at Charleston, South Carolina. In the early spring of 1837 he set out overland for New Orleans to meet the ship for Texas. The previous year he had received from the government at Washington the promise of a revenue cutter in which to explore the coasts of West Florida, of Louisiana, and of the Mexican Gulf as far as Galveston. On this cruise he proposed to take with him an intimate friend, Edward Harris,[9] and his son, John Woodhouse Audubon. He was delighted to learn that the captain of the revenue cutter selected for his trip, the *Campbell* (of 55 tons burden and carrying a crew of 21 men), was Napoléon Coste, the old pilot of the *Marion*, in which, in the spring of 1832, Audubon had explored the eastern coast of Florida as far south as Key West. The Audubon party had planned to leave in the *Campbell* from Charleston, but the Seminole War, then raging, somewhat disarranged their plans. To quote from Herrick's account of events of this period:

> As spring approached and the long awaited *Campbell* had not arrived, Audubon, with Harris and John, started overland for New Orleans. After several days of hard travelling by coaches they reached Montgomery, and descended the Alabama River by steamboat to Mobile. When that district had been ransacked for birds, they went on to Pensacola, where they learned that the government cutter would soon be at their service

[9]Edward Harris (1799-1863), gentleman-farmer and ornithologist; "a gentleman to whom I am most deeply indebted for many acts of kindness and generosity, and in particular for his efficient aid at a time when I was reduced to the lowest degree of indigence, and removed from any individuals to whom I could make known my wants," said Audubon in his *Birds of America* [8vo. ed.], vol. 4, p. 242. For a biography of Harris, see *Cassinia*, vol. 6, 1902.

at New Orleans; accordingly they retraced their steps to Mobile, passed through the lakes, and entered . . . [New Orleans].[10]

Finally, on the first of April we see them on the *Campbell* sailing down the Southwest Pass into the Gulf of Mexico. On the fourth of April, they reached Grande Terre Island and Barataria Bay; on the ninth, Caillou Island and Terre-bonne Bay; they reached Côte Blanche Bay on the seventeenth; and Galveston Bay on the twenty-fourth. From the twenty-fourth of April to the eighth of May, they explored Galveston Island and the lower bay; on the eighth of May they left Galveston for Houston, the new capital of the republic. Here they visited President Houston, witnessed the results of the Indian "Big Talk" with Sam Houston, and met Crawford, the British special agent sent on consular business. On the sixteenth, they began the return to Galveston, and departed for New Orleans two days later. On the evening of the twenty-fifth of May they reached the point from which they had first set out. The journal, reconstructed as far as reconstruction is possible from the fragments that are left, follows.

II

Saturday, April 1, 1837.—With my son John and my good, generous friend, Mr. Edward Harris, I came down from New Orleans, this day, in the U. S. Revenue Cutter *Campbell,* Captain Napoléon Coste, to the Southwest Pass. We are provisioned for two months and are bound westwardly from the mouth of the Mississippi to Galveston Bay, in Texas, intending to explore the harbor, keys, and bayous along the coast, to examine the habits of the birds of this region, and to search for new species, which may furnish materials for the completion of the fourth volume of the *Birds of America.*[11] During the day I observed the Black-and-Yellow Wood Warbler in considerable numbers on its way to the United States.[12] The Blue Winged Teal we

[10]Herrick, *Audubon, the Naturalist,* vol. 2, p. 157, 1917.

[11]Buchanan, R. *Life and Adventures of Audubon the Naturalist.* (Everyman edition), p. 300.

[12]Audubon, J. J. *The Birds of America* ["*Birds* in Miniature", the Royal 8vo. edition published at Philadelphia, in seven volumes, 1840-44], vol. 2, p. 67, 1841.

found very abundant, in flocks of various sizes, and in full plumage.[13] Large flocks, also, of the Red Breasted Snipe, still in winter plumage, were observed on their way eastward.[14]

Sunday, April 2.—Arrived at the Southwest Pass of the Mississippi, and stopped for some time to shoot birds on the marshy flats. Here we saw a Marsh Hawk seize a bird (perhaps a Marsh Wren) on its nest, and carry it off in its talons with the nest! A pair of Marsh Hawks was hovering over the marsh during the whole of our stay, and probably had a nest thereabout.[15]

Monday, April 3.—We were joined this day by Captain W. B. Taylor, of the Revenue service, with the schooner *Crusader,* twelve tons burden, two guns, and four men completely equipped for our expedition with a supply of seines, cast-nets, and other fishing tackle.[16] Great numbers of birds are observed entering the United States from Mexico. Among these is the Coerulean Warbler, in perfect summer plumage,[17] the Black and Yellow Warbler, migrating in considerable numbers,[18] and also the Yellow Winged Bunting.[19] [The weather was threatening, and unseasonably cold. This day they entered Barataria Bay and commenced operations.]

Tuesday, April 4.—Landed at Grande Terre Island, in Barataria Bay [20] (a bay much infested twenty-five years before with pirates). Great numbers of migrating birds are to be seen. Some of these, such as the Red Breasted Snipe, begin to show a change to summer plumage (several specimens of this species showing reddish feathers scattered over their lower parts)[21]. Great numbers of Laughing Gulls attended on porpoises which were fishing, and also on the Brown Pelicans, tormenting the latter.[22]

[13]Audubon, *ibid.*, *6*:289, 1843.
[14]Audubon, *ibid.*,*6*:10, 1843.
[15]Audubon, *ibid.*, *1*:108/9, 1840.
[16]Buchanan, *op. cit.*, 300.
[17]Audubon, *op. cit.*, *2*:46, 1841.
[18]Audubon, *ibid.*, *2*:67, 1841.
[19]Audubon, *ibid.*, *3*:73, 1841.
[20]Buchanan, *op. cit.*, p. 301.
[21]Audubon, *op. cit.*, *6*:10, 1843.
[22]Audubon, *ibid.*, *7*:142, 1844.

This morning, while I was seated among the driftwood accumulated on the southern shore of Grande Terre Island, I noted a flock of about thirty Long-Legged Sandpipers, and for three-quarters of an hour observed with much pleasure their feeding habits. My son, John, also obtained some of these birds today on the margin of a freshwater pond.[23]

The American Coot here congregates in such vast numbers that one of the crew of the *Campbell* killed eighty of them at a single shot.[24] From my lookout on the pile of driftwood I observed a number of White Pelicans swimming and fishing. They swam against wind and current, with their wings partially extended and the neck stretched out, the upper mandible alone appearing above the surface. The lower mandible must have been used as a scoop net, as I saw it raised from time to time, and brought to meet the upper, when the whole bill immediately fell to perpendicular position; the water was allowed to run out, and the bill being again raised upwards, the fish was swallowed. After thus swimming for about a hundred yards in an extended line, and parallel to each other, they would rise on wing, wheel about, and realight at the place where their fishing had commenced. Then they would repeat the same actions. I continued watching them for more than an hour, concealed among a large quantity of logs, until their fishing was finished; when they all flew off to the lee of another island, no doubt to spend the night there, for these birds are altogether diurnal. When gorged, they retire to the shores, to small islands in bays and rivers, or sit on logs floating in shallow water, at a good distance from the beach; in all which situations they are prone to lie down, or stand closely together.[25] Being anxious to procure several specimens of these birds for anatomical study of the soft parts, I set out with a select party—Edward Harris, my son, John, and myself—toward a small island in Barataria Bay, leeward of Grande Terre Island. After a while we saw large flocks of these birds on some grounded

[23]Audubon, *ibid.*, 5:271, 1842.
[24]Audubon, *ibid.*, 5:141, 1842.
[25]Audubon, *ibid.*, 7:23, 1844.

logs, but found it no easy matter to get near them, on account of the shallowness of the bay, the water being scarcely two feet in depth for upwards of a half-mile from us. Quietly, and with all possible care, we neared a flock of some hundreds of grave and sedate White Pelicans, huddled together on a heap of logs stranded on a small bank of racoon oysters. They were lying on their breasts; but as we neared them they all rose deliberately to their full height. Some, gently sliding from the logs, swam off toward the nearest flock, as unapprehensive of danger as if they had been a mile distant. A volley of buckshot netted us three dead birds in the water; and another shot from a different gun brought another down from on wing. About a quarter of a mile farther on we killed two more; so that we returned with a full cargo of dead and wounded birds. The pelicans appeared tame, if not stupid, and at one place, where there were about sixty on an immense log, could we have gone twenty yards nearer, we might have killed eight or ten at a single discharge. But we already had a full cargo.[26]

Wednesday, Thursday, April 5, 6.—[There are no entries for these days, which other records indicate were probably cold. It is probable that on these two days Audubon noted the arrival into the United States of great crowds of Ruby Throated Hummingbirds, advancing eastward along the gulf shore.] The weather having become very cold one morning, many hummingbirds were picked up dead along the beaches, and those which bore up were so benumbed as almost to suffer the members of my party to take them with the hand.[27] The Scarlet Tanager also appeared to be very abundant on some of these islands, but were restrained from proceeding eastward by the unseasonably cold weather. Many of the Tanagers were obtained in their full summer dress, and a few in the garb of the females. These plain-colored individuals turned out to be males, which confirms my opinion (for this and other species) *that the males precede*

[26]Audubon, *ibid.*, 7:23-24, 1844.
[27]Audubon, *ibid.*, 4:195, 1842.

the females by about a fortnight in their spring migrations.[28]

Friday, April 7.—A severe gale from the northwest. Today I saw a flock of about thirty Brown Pelicans flying only a few feet above the water and against the gale. Having proceeded a few yards, they plunged into the water, generally to leeward, and threw their bodies round as soon as their bills were immersed, giving a very curious appearance to the wings, which seemed as if locked. On seizing a fish, they drained the mouth as did the White Pelican [*v.* April 4 entry]. In this way the whole flock kept dashing and plunging pell-mell, like Gannets, over a space of about a hundred yards; fishing at times in the very surf, and where the water could not be more than a very few feet deep. Each of them must have caught upwards of a score of fishes. As soon as they were satisfied, they flew in a line across the channel, and landed on low banks under the lee of the island, opposite our harbor. During all the time of their fishing they were attended by a number of Black-Headed Gulls, which followed all their movements, alighting on their heads, and feeding as I have already described.[29]

Saturday, April 8, 1837.—[Left the vicinity of Grande Terre Island and Barataria Bay, and after leisurely cruising past the mouth of Bayou Lafouche, probably arrived April 9 at Caillou Island, an island-bar across the mouth of Terre-bonne Bay.]

Monday, April 10.—Caillou Island. At midday, great flocks of Blue and Green Herons were seen arriving from the westward. They flew at a considerable height, and came down suddenly, like so many hawks, to alight on the low bushes growing around the sequestered ponds. They remained until sunset, when they all flew away.[30]

Tuesday, April 11.—Caillou Island. Migration of birds in full swing. No Herons today, but large and dense flocks of Blue-Winged Teal flying to the eastward.[31]

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[28]Audubon, *ibid.*, *3*:226, 1841.
[29]Audubon, *ibid.*, 7:39, 1844.
[30]Audubon, *ibid.*, *6*:150, 1843.
[31]Audubon, *ibid.*, *6*:289, 1843.

Thursday, April 13.—Caillou Island. A heavy gale from the west. My generous friend, Mr. Edward Harris, saw a flock of about twenty Least Bitterns arriving from the westward. They were driven before a heavy wind, and on their arrival at the island plunged, as it were, into the marshes, and hid themselves so closely (from fatigue or otherwise) that neither he nor the dog could raise one of them.[32] The Red-Breasted Snipe [*v.* entries for April 1; 4] begins to show considerable change of color, in the transition to summer plumage. The change is greater in the older birds, while the younger are still quite gray above and white beneath.[33] [Audubon probably spent this day and the next in general investigations in Terre-bonne Bay and its immediate vicinity; then transferred the seat of operations to Derniere Island, five miles from Caillou Island. Derniere Island caps the southernmost coast of present Parish Terrebonne, Louisiana.]

Saturday, April 15, 1837.—Derniere Island. Birds are still in full migration. The Blue-Winged Teal very plentiful and gentle.[34] Red-Breasted Snipe and all other water fowl in abundance, and migrating. We met with a flock of Oyster Catchers, fourteen or fifteen in number, flying compactly, and uttering their usual cry of *weep, weep.* Two of them were shot down into the water, but one of them which had only been winged dived so effectually as to escape from us, in spite of the most strenuous exertions of the sailors to recover it.[35]

Sunday, April 16.—Derniere Island. Captain Coste shot three specimens of the American Avoset (on an immense sand-bar, intersected by pools, about twelve miles from Derniere Island) and brought them to me, in perfect order. They are larger, and perhaps handsomer, than any I have seen; and were killed while feeding, out of a flock of five. Several other flocks of Avocets were feeding in the vicinity.[36] Of the Red-Breasted Snipes that I killed on this island, practically all, even of the younger birds,

[32]Audubon, *ibid.*, 6:102, 1843.
[33]Audubon, *ibid.*, 6:10, 1843.
[34]Audubon, *ibid.*, 6:289, 1843.
[35]Audubon, *ibid.*, 5:239, 1842.
[36]Audubon, *ibid.*, 6:27, 1843.

showed change from summer to winter plumage. The species is extremely abundant locally.[37]

Monday, April 17.—[En route to Côte Blanche Bay. Sailing past Atchafalaya Bay, and stopping briefly at Rabbit Island, a small spot of land at the mouth of East Côte Blanche Bay.] Blue-Winged Teal especially abundant on Rabbit Island.[38] [Reached Côte Blanche Bay today.]

Tuesday, April 18.—Côte Blanche Bay. Innumerable land and water birds, caught in the spring migrations: Snipes, Blackbirds, Gallinules, Curlews, Herons, etc. The shores of the bay are high—twenty to thirty feet—and the waters of the bay are so shallow as to make navigation difficult. This bay for a number of years was infested with pirates, in consequence of which, a few years ago, a United States revenue cutter was sent to protect the coast. Our black-painted revenue schooner *Crusader,* of twelve tons burden, although she flies the stars and stripes, has been suspected by the fearful planters of being a pirate ship![39]

Thursday, April 20.—Côte Blanche Bay. Yesterday afternoon about four o'clock Mr. Edward Harris killed a Yellow-Crowned Night Heron on an island in the bay. This morning when we opened it we found an inch-and-a-half terrapin which it had swallowed. The terrapin was still alive, and greatly surprised my companions as well as myself in crawling about when liberated.[40]

Friday, April 21.—[Probably back to Atchafalaya Bay, for the last lap in the journey to Texas.]

Monday, April 24.—Galveston Bay. Arrived in Galveston Bay this afternoon, having had a fine run from Atchafalaya Bay. We were soon boarded by officers from the Texan vessels in the harbor, who informed us that two days before the U. S. sloop of war *Natchez* fell in with the Mexican squadron off the harbor of Velasco, captured the brig *Urrea,* and ran two other vessels

[37]Audubon, *ibid.*, *6*:10, 1843.
[38]Audubon, *ibid.*, *6*:289, 1843.
[39]*J. J. Audubon to William Macgillivray,* 18 April, 1837.
[40]Audubon, *op. cit.*, *6*:90, 1843.

ashore; another report says they sunk another ship and went in pursuit of the squadron. These vessels were taken as pirates—the fleet, having sailed from Vera Cruz without provisioning, had been plundering American vessels on the coast. There is also a rumor that the Texan schooner *Independence* has been captured by a Mexican cruiser.[41] The American schooner *Flash* was driven ashore a few days since by a Mexican cruiser, and now lies on the beach at the lower end of the island.[42] The bird-fauna represented on Galveston Island is about what it has been on the whole trip to Texas. The Blue-Winged Teal, Snowy and Blue Heron, various species of Sandpipers, and Black-Necked Stilts are abundant. I was amused today to see how the Purple Heron, although larger than the Snowy Heron, is considerably inferior to it in courage. A Snowy Heron in my view lighted near a Purple Heron, attacked it, and pursued it out of sight.[43]

Tuesday, April 25.—A heavy gale blew all night, and this morning the thermometer in the cabin is 63°. Thousands of birds, arrested by the storm in their migration northward, are seen hovering around our vessels and hiding in the grass, and some are struggling in the water, completely exhausted. We had a visit this morning from the secretary of the Texan navy, Mr. S. Rhoads Fisher, who breakfasted with us. He appeared to be a well-informed man, and talked a great deal about the infant republic. Then he left us for the seat of government at Houston, seventy miles distant, on the steamer *Yellow Stone,* accompanied by Captains Coste and Taylor, taking the *Crusader* in tow.[44] [Fisher, who seems to have been something of a sportsman, also gave Audubon information regarding the nesting habits of many of the game-fowl of the region.]

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[41]The *Independence,* Captain Wheelright, was attacked April 17 by the *Libertador* and *Vincedor del Alamo,* and captured. *See* Dienst, "The Navy of the Republic of Texas," *Texas Historical Assn. Quarterly, 12*:270, 1909.

[42]Buchanan, *op. cit.,* 306.

[43]Audubon, *op. cit., 6*:153, 1843.

[44]Buchanan, *op. cit.,* p. 306. The *Yellow Stone,* a steamer originally built for the Missouri river traffic, was brought to Texas in 1836, for use on the Brazos. It was subsequently brought into Galveston Bay. (*Telegraph and Texas Register,* Jan. 24, 1836.) Thomas W. Grayson was captain in 1836; it appears that in 1837 ?Washington W.? West was captain.

Wednesday, April 26.—Went ashore at Galveston. The only objects we saw of interest were the Mexican prisoners; they are used as slaves; made to carry wood and water, and cut grass for the horses, and such work; it is said that some are made to draw the plow. They all appear to be of delicate frame and constitution, but are not dejected in appearance.[45] Among the many birds observed today may be mentioned: The Blue-Winged Teal, which I found on all the ponds and salt bayous or inlets of Galveston Island, as well as in the interior, where I am assured they breed in great numbers;[46] the Black-Necked Stilt, which occurs in small flocks on the brackish ponds of the bay, where they were so shy that it was difficult for us to procure specimens. When breeding, they are much less shy than at other times.[47] Black-Headed or Laughing Gulls, now paired, and very noisy, were not infrequently seen hovering over the inner ponds of the island, as if in search of food.[48]

Thursday, April 27.—We were off at an early hour for the island, two miles distant; we waded nearly all the distance, so very shallow and filled with sandbanks is this famous bay. The men made a large fire to keep off the mosquitoes, which were annoying enough for even me. Besides many interesting birds, we found a new species of rattlesnake, with a double row of fangs on each side of its jaws.[49]

Friday, April 28.—We went on a deer hunt on Galveston Island, where these animals are abundant; we saw about twenty-five, and killed four.[50] Edward Harris, my son, John, and some others of our party shot the deer. These the sailors brought to our little camp near the shore. Feeling myself rather fatigued, I did not return to the bushes with the rest, who went in search of more venison for our numerous crew, but proposed, with the assistance of one of the sailors, to skin the deer. While doing

[45]Buchanan, *ibid.*, *p.* 306/7.
[46]Audubon, *op. cit.*, *6*:289, 1843.
[47]Audubon, *ibid.*, *6*:31, 1843.
[48]Audubon, *ibid.*, 7:142, 1844.
[49]Buchanan, *op. cit.*, 307.
[50]Buchanan, *ibid.*, p. 307.

this, and washing the meat afterward, I was delighted to observe the behavior of four Turnstones, busily engaged in ingeniously searching for food along the seashore.[51]

Saturday, April 29, 1837.—John took a view of the rough village of Galveston[52] with the Camera Lucida. We found much company on board on our return to the vessel, among whom was a contractor for beef for the army; he was from Connecticut, and has a family residing near the famous battle-ground of San Jacinto. He promised me some skulls of Mexicans,[53] and some plants, for he is bumped with botanical bumps somewhere.[54] Hundreds of pairs of the Least Tern are breeding on the islands of Galveston Bay. Also, on one of these islands I found eight or ten nests of the Roseate Spoonbill, placed in low cactuses, amid some hundreds of nests belonging to Herons of different species.[55] Snakes are abundant on the island, and live on the eggs of nesting birds, whence the old name for Galveston Island of "Snake Island." The Common Tern is strangely rare just now: only a few are arriving from the west.[56] The Gadwell Duck is quite abundant on all the inland ponds and streams, as well as on the brackish pools and inlets of the islands and shores of Galveston Bay. Many of them have paired and separated from the other ducks; and I was assured by Mr. S. Rhoads Fisher, the Texan Secretary of the Navy, that this species breeds here, as does also the Dusky Duck, the Mallard, the Blue-Winged Teal, the Widgeon, and the Shoveller Duck; and he says the young of all these species are plentiful in the end of June and beginning of July.[57]

Monday, May 1.—Galveston Bay. I was much fatigued this morning, and the muscles of my legs were swelled until they

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[51]Audubon, *op. cit.*, 5:232, 1842.

[52]*See* Colonel Amasa Turner's "Reminiscences of Galveston," *Texas Hist. Assn. Quarterly*, 3:44*ff.*, 1899, for a description of the village of that time.

[53]For many years such relics might be picked from the field of San Jacinto, as the bodies remained unburied after the battle.

[54]The army contractor referred to here is John W. Moore, of Harrisburg, who was appointed to the position Nov. 15, 1835. Frequent references to him are found in the Lamar and Austin Papers, *q.v.*

[55]Audubon, *op. cit.*, 6:75, 1843.

[56]Audubon, *ibid.*, 7:97, 1844.

[57]Audubon, *ibid.*, 6:254, 1843.

were purple, so that I could not go on shore. The muskrat is the only small quadruped found here, and the common house-rat has not reached this part of the world.[58]

Tuesday, May 2.—Went ashore on Galveston Island, and landed on a point where the Texan garrison is quartered. We passed through the troops, and observed the miserable condition of the whole concern; huts made of grass and a few sticks, or sods cut into square pieces, composed the buildings of the poor Mexican prisoners, which, half clad and half naked, strolled about in a state of apparent inactivity. We passed two sentinels under arms, very unlike soldiers in appearance. The whole population seemed both indolent and reckless. We saw a few fowls, one pig, and a dog, which appeared to be all the domestic animals in the encampment. We saw only three women, who were Mexican prisoners. The soldiers' huts are placed in irregular rows, and at unequal distances; a dirty blanket or coarse rag hangs over the entrance in place of a door. No windows were seen, except in one or two cabins occupied by Texan officers and soldiers. A dozen or more long guns lay about on the sand, and one of about the same caliber was mounted. There was a lookout house fronting and commanding the entrance to the harbor, and at the point where the three channels meet there were four guns mounted of smaller caliber. We readily observed that not much nicety prevailed among the Mexican prisoners, and we learned that their habits were as filthy as their persons. We also found a few beautiful flowers, and among them one which Harris and I at once nicknamed the Texan daisy; and we gathered a number of their seeds, hoping to make them flourish elsewhere. On the top of one of the huts we saw a badly-stuffed skin of a grey or black wolf, of the same species as I have seen on the Missouri.[59] . . . We walked down to the shore bordering a shallow bayou, for the purpose of fishing for prawns (which here grow to a very large size and are extremely abun-

[58]Buchanan, *op. cit.*, p. 307.
[59]Buchanan, *ibid.*, p. 307/8.

dant) and of catching fish. Our fishing over, we were on the point of returning, when we saw three spoonbills alight on a sandbar, and almost immediately proceed to the water in search of food. John, by wading over some muddy shallows, succeeded in getting near enough to kill the finest of the three. Almost at the same instant the back fins of a large fish resembling those of a shark appeared meandering above the surface of the shallow waters. We called to John, and he, wishing to kill the monster, which moved but slowly, rammed home a couple of bullets, and lodged them in the body of the fish. Thereupon it floundered about apparently in great agony. One of our boats immediately pushed toward the spot and took John aboard, while the animal used its best efforts to get into deeper water. Sailors and all joined in the chase. The gun was again charged with balls; my son waded once more toward the fish, and lodged the missiles in its body, while from the bow of the boat it received several blows from oars and gaff-hook. The tars all leaped into the water, and the bleeding fish was closely beset. The boatswain at a single lucky stroke cut off its tail, and having fastened the hook in one of its eyes, we dragged it to the beach. About a hundred Mexican prisoners, Texan soldiers, and officers were there; but instead of our prize turning out a shark, it proved to be a sawfish, measuring rather more than twelve feet in length.[60] . . . From her body we recovered ten small sawfish, all of them alive and wriggling about as soon as they were thrown on the sand. The young were about thirty inches in length, and minute sharp teeth were already formed.[61]

Wednesday, Thursday, May 3, 4.—[No definite records. From context of records of succeeding days, it is probable that there was on these days a severe gale from the east.]

Friday, May 5.—Hunted birds over the interior of Galveston Island today. While I was watching some Marsh Hawks that were breeding in the neighborhood, I was much surprised to

[60]Audubon, *op. cit.*, 6:76*ff.*, 1843.
[61]Buchanan, *op. cit.*, p. 308.

find a large flock of Skimmers alighted, and apparently asleep, on a dry grassy part of the interior of the island. These birds usually rest much nearer to the shore. On returning thither, however, I found that the tide was much higher than usual, in consequence of the recent severe gale, and had covered all the sand banks on which at other times I had observed them resting by day.[62] In spite of the coldness of the season I found broods of the Spotted Sandpiper, or Tattler, already well grown.[63]

Monday, May 8.—Today we hoisted anchor, bound for Houston; after grounding a few times, we reached Red Fish Bar, distant twelve miles, where we found several American schooners and one brig. It blew hard all night, and we were uncomfortable.[64]

Tuesday, May 9.—We left Red Fish Bar with the *Crusader* and the gig, and with a fair wind proceeded rapidly. Soon we came up to the new-born town of New Washington, owned mostly by Swartwout, the collector of customs of New York.[65] We passed several plantations; and the general appearance of the country was more pleasing than otherwise. About noon, we entered Buffalo Bayou, at the mouth of the San Jacinto River, and opposite the famous battle-ground of the same name. Proceeding smoothly up the bayou, we saw abundance of game, and after traveling some twenty miles stopped at the house of a Mr. Batterson. This bayou is usually sluggish, deep, and bordered on both sides with a strip of woods not exceeding a mile in depth. . . . It was here today that I found the Ivory-Billed Woodpecker in abundance, and secured several speciments.[66] . . . It rained and lightened, and we pass the night at Mr. Batterson's.

Wednesday, May 10.—It rained again today, but we pushed

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[62]Audubon, *op. cit.*, 7:70, 1844.
[63]Audubon, *ibid.*, 5:304, 1842.
[64]Buchanan, *op. cit.*, p. 308.
[65]Samuel Swartwout (1783-1856), New York merchant and capitalist, land-speculator in New Jersey and Texas. The town of New Washington, also called "Clopper's Point", did not materialize. It was founded by Colonel James Morgan about 1836. Dr. Ferdinand Roemer, visiting the place in 1846, stayed with Colonel Morgan, and has written graphically and devastatingly of New Washington. *See* Roemer, *Texas* . . ., pp. 70-75, 1849.
[66]Audubon, *op. cit.*, 4:219, 1842.

on in the gig toward Houston. The rain had, however, so swollen the water of the bayou and increased the current that we were eight hours rowing twelve miles.[67]

Monday, May 15.—We landed at Houston, the capital of Texas, drenched to the skin, and were kindly received on board the steamer *Yellow Stone*, Captain West,[68] who gave us his state-room to change our clothes in, and furnished us refreshments and dinner. The Buffalo Bayou had risen about six feet, and the neighboring prairies were partly covered with water; there was a wild and desolate look cast on the surrounding scenery. We had already passed two little girls encamped on the bank of the bayou under the cover of a few class-boards [clapboards?], cooking a scanty meal; shanties, cargoes of hogsheads, barrels, etc., were spread about the landing; and Indians drunk and hallooing were stumbling about in the mud in every direction. These poor beings had come here to enter into a treaty proposed by the whites; many of them were young and well-looking, and with far less decorations than I have seen before on such occasions. The chief of the tribe is an old and corpulent man.

We walked towards the President's house, accompanied by the Secretary of the Navy, and as soon as we rose above the bank, we saw before us a level of far-extending prairie, destitute of timber, and with rather poor soil. Houses half-finished, and most of them without roofs, tents, and a liberty pole, with the capitol, were all exhibited to our view at once. We approached the President's mansion,[69] however, wading through water above our ankles. This abode of President Houston is a small log house, consisting of two rooms and a passage through, after the Southern fashion. The moment we stepped over the threshold, on the right hand of the passage we found ourselves ushered into

[67]Buchanan, *op. cit.*, pp. 308/9.

[68]Son of Dr. West, of Beaufort, S. C. In 1836 he was captain of a small steamer, the *Laura*, owned by McKinney & Williams. *See* Lubbock, *Memoirs*, ch. 2, 1900.

[69]The president's mansion was on Travis street; it was a double log-cabin, and was not finished when President Houston arrived in Houston, so he was entertained by Mrs. A. C. Allen, who then lived on Lamar avenue, between Louisiana and Smith. The capitol was a two-storied frame house, with wings, and fronted on Main street. The Rice Hotel in 1908 stood on the site of the old capitol. *See* Blandin's *History of Shearn Church*, p. 10, 1908.

what in other countries would be called the antechamber; the ground floor, however, was muddy and filthy, a large fire was burning, a small table covered with paper and writing materials was in the center, camp-beds, trunks, and different materials were strewn around the room. We were at once presented to several members of the cabinet, some of whom bore the stamp of men of intellectual ability, simple, though bold, in their general appearance.[70]. Here we were presented to Mr. Joseph T. Crawford, British Vice-Consul at Tampico, an agent of the British Minister to Mexico, who has come here on some secret mission.[71]

The president was engaged in the opposite room on national business, and we could not see him for some time. Meanwhile we amused ourselves by walking to the capitol, which was yet without a roof, and the floors, benches, and tables of both houses of Congress were as well saturated with water as our clothes had been in the morning. Being invited by one of the great men of the place to enter a booth to take a drink of grog with him, we did so; but I was rather surprised that he offered his name, instead of the cash, to the bar-keeper.

We first caught sight of President Houston as he walked from one of the grog-shops, where he had been to prevent the further sale of ardent spirits to the Indians. He was on his way to his house, and wore a large, gray, coarse hat; and the bulk of his figure reminded me of the appearance of General Hopkins, the Indian fighter, of Virginia, for like him he is upwards of six feet high, and strong in proportion. But I observed a scowl in the expression of his eyes that was forbidding and disagree-

[70]Houston's cabinet at this time was made up of the following: Secretary of War, William S. Fisher; Secretary of the Navy, S. Rhoads Fisher; Attorney-General, James Pinckney Henderson; Postmaster-General, Robert Barr; Comptroller, Elisha M. Pease. Stephen F. Austin, Secretary of State, had died at the close of the previous December.

[71]Joseph T. Crawford, British Vice-Consul at Tampico, was sent to Texas on Consular business in the spring of 1837. He arrived at Velasco on April 12, and at Columbia (seat of the Texas government from August, 1836-May 1, 1837) on April 13. Because of a delay in the finishing of the Government buildings at Houston, the President and his cabinet remained at Columbia until about the eighteenth of April, when, accompanied by Crawford, they moved to Houston. Crawford left the capital about the same time as Audubon, and sailed from Galveston to New Orleans with him aboard the revenue cutter *Campbell*. See *British Diplomatic Correspondence, 1838-1846*, pp. 3-16.

able.[72] We reached his abode before him, but he soon came, and we were presented to his excellency. He was dressed in a fancy velvet coat, and trousers trimmed with broad gold lace; around his neck was tied a cravat somewhat in the style of seventy-six. He received us kindly, was desirous of retaining us for a while, and offered us every facility within his power. We were severally introduced by him to the different members of his cabinet and staff, and at once asked to drink grog with him, which we did, wishing success to his new republic. Our talk was short; but the impression which was made on my mind at the time by himself, his officers, and his place of abode, can never be forgotten.

We returned to our boat through a mêlée of Indians and blackguards of all sorts. In giving a last glance back we once more noticed a number of horses rambling about the grounds, or tied beneath the few trees that have been spared by the axe. We also saw a liberty pole, erected on the anniversary of the battle of San Jacinto, on the twenty-first of last April, and were informed that a brave tar who rigged the Texan flag on that occasion had been personally rewarded by President Houston with a town lot, a doubloon, and the privilege of keeping a ferry across the Buffalo Bayou at the town, where the bayou forks diverge in opposite directions.[73]

Tuesday, May 16.—Departed for New Washington, where we received kind attentions from Col. James Morgan;[74] crossed San Jacinto Bay to the *Campbell,* and the next day dropped down to

[72]The national affairs of Texas at the time hardly were of such a character as to evoke sweetness and light. The finances, for one thing, were at a low ebb. Land-scrip sellers in the United States had failed to report; the $5,000,000 loan which it was proposed to float in the United States could not be placed; there was confusion in the land-titles, and some fraud; the navy was too small to give adequate protection to Texas commerce; the standing army of 1000 men made necessary by the intransigence of Mexico, cost about $230,000 yearly.

[73]The above account follows, with some additions, that of Buchanan, *op. cit.,* 309-10. There is another account, purported to have been written by Audubon, published by Mrs. I. M. E. Blandin in the *History of Shearn Church* [Houston], p. 11, 1908, in a style completely different from that ordinarily used by Audubon. It appears to be a curious hodge-podge of the original authentic account, with many of the original elements omitted, "embellished" here and there with sentiments from Littleton Fowler's journal and the accounts of perhaps Bishop Andrew and Chauncey Richardson. I doubt its authenticity in any sense.

[74]C. C. Cox, in his *Reminiscences,* gives a pleasant sidelight on the hospitality of Colonel Morgan at New Washington, where he says he met "Mr. Anderson [Audubon]—the naturalist", as well as distinguished Texans. See *Texas Hist. Assn. Quarterly* 6:117, 1902.

Galveston.[75] On the way down the bayou, I noticed with great surprise how well adapted the Texas prairies were to the habits of the Black-Throated Bunting. These birds were extremely numerous in every open piece of ground covered by tufts of tall grass.[76] Before we left the country I made particular note that the American Widgeons were all paired. I had been informed by the Honorable S. Rhoads Fisher that a good number of these breed in the maritime districts, along with several other ducks, and that he annually received many of the young birds.[77]

Thursday, May 18.—Left the bar at Galveston, having on board Mr. Joseph T. Crawford, British Vice-Consul at Tampico, and a Mr. Allen of New Orleans.

Wednesday, May 24.—Arrived at the Southwest Pass, and proceeded to the Belize, and thence to New Orleans, where we arrived in three days.[78]

III

The Audubon party tarried a few days in New Orleans, which was very hot and nearly deserted. On May 28, Audubon and his friends breakfasted with former Governor A. B. Roman,[79] and on the last day of the month they separated, Audubon and his son John proceeding by steamer, mail-cart, coach, and railroad to Charleston, while Edward Harris took boat up the river for further exploration before rejoining the party at Charleston. The extensive collections, including a very large number of birds' eggs packed in a large box, were left to be sent north by Audubon's friend, Governor Roman. For some unexplained reason, a large portion of the collections made in Texas never came to hand. A cause of special regret to Audubon was the loss of the large box of eggs, which contained specimens belonging to most

[75]Buchanan, *op. cit.*, p. 310.

[76]Audubon, *op. cit.*, pp. 58-9, 1841.

[77]Audubon, *ibid.*, *6*:260, 1843.

[78]Evidently these last entries were filled in a few days after the events occurred. Crawford, writing next morning to Sir Richard Pakenham, states that they reached New Orleans on the evening of the 25th of May. (*Brit. Diplom. Corresp.*, 9.)

[79]Andrew B. Roman (1785-1866), graduate of Saint Mary's College in Baltimore, 1815, Governor of Louisiana, 1831-35 and 1839-41. See *Appleton's Cyclop. Amer. Biogr.*

of the species encountered on the expedition to Texas.[80] Farewells were said to the crew of the *Campbell* and the *Crusader*, and the Texas trip was over. "We crossed to Mobile in the steamer *Swan*," said Audubon in his journal, "paying fare twelve dollars each, and making the trip of one hundred and fifty miles in twenty-one hours. If New Orleans appeared prostrated, Mobile seemed quite dead. We left in the afternoon for Stockton, Alabama, forty-five miles distant, where we were placed in a cart, and tumbled and tossed for one hundred and sixty-five miles to Montgomery; fare twenty-three dollars each, miserable road, and rascally fare. At Montgomery we took the mail coach, and were much relieved; fare to Columbus twenty-six dollars each. Our travelling companions were without interest, the weather was suffocating, and the roads dirty and very rough; we made but three miles an hour for the whole journey, walking up the hills, and galloping down them to Augusta, and paying a fare of thirteen dollars and fifty cents each, and thence by rail to Charleston for six dollars and seventy-five cents each, distance one hundred and thirty-six miles, and making eight and a half days from New Orleans."

IV

And now this series of essays on Naturalists of the Frontier must have an end: even though the presentation of men and movements has been partial and inadequate as a mirroring of the interaction between the naturalist and frontier conditions of life. These eight men are but a handful compared with the many workers, some of them of humble and slender gifts, others of outstanding ability and accomplishment, who during the pioneer period in Texas contributed to our cultural advance. If I may, I should like to resume in a summary the chief acts in the drama, and present the actors.

It is to be expected that as a geographic frontier advances it

[80] *J. J. Audubon to T. M. Brewer,* Sept. 14, 1837; Oct. 29, 1837. (*Harper's New Monthly Magazine 61*:665-675, 1880.)

will attract to it men of science, for such men are restive of confinement within the limits of the known, the conventional, the static. In this respect the naturalist is the true intellectual frontiersman, unsatisfied in an intellectually stratified society, with the punctilios of which he has as little sympathy as has the frontiersman of another sort with social complexities and restrictions. So for a time at least, he pushes out beyond the borders. If he seeks to discover new species of animals and plants, he seeks the geographic frontier. There, face to face with dangers, with sufferings, with privations intolerable to a closet-naturalist, he advances our knowledge of nature. He is urged on by an inner drive whose source he but dimly comprehends.

Scientific exploration in Texas began in 1828, with the arrival in the province of Jean Louis Berlandier, a favorite pupil of Augustin DeCandolle, of Geneva. On this occasion he was a member of the scientific staff of the *Comisión de Límites*, or expedition of General Mier y Teran, to aid in the establishment of the boundary between the province of Texas and the United States. During the years 1828-1834, Berlandier made extensive travels in Mexico and Texas, and formed collections of plants, especially from Southern Texas, which stimulated the explorations of later workers. During the earlier years of Berlandier's activities, the full attention of the Texan colonists was of necessity devoted to the gaining of the barest necessities of life, with but little cultivation of intellectual things. Early in 1831 there began, however, a considerable immigration of German intellectuals, many of whom had university training in the sciences. In 1831 Friedrich Ernst, former head-gardener to the Grand-Duke of Oldenburg, founded the village of Industry in present Austin County; and by 1838 he had a large orchard planted with peach trees, besides a garden with many sorts of vegetables. Thomas Drummond surely must have found cultivated Germans in Austin County when, in the summer of 1833, he explored Austin's Colony west of San Felipe. The periods of

greatest German migration were after 1833 and 1845. Lindheimer made his entry into Texas in 1836. Charles Wright and Audubon came in the spring of 1837; and Wright's visit extended to fifteen years of work in Texas. Augustus Fendler, a forgotten Thoreau of the frontier, later a *protégé* of Asa Gray, came to Texas in 1839. He remained here in complete obscurity for about a year, and then returned to Saint Louis.

These men contributed greatly to our knowledge of the flora and fauna of Texas, and the labors of some of them have been assessed. In the meantime other discoveries in Texas were awakening an interest in natural history in the republic. Some time in the late 'thirties William Huff (or Hough) of San Felipe brought together a collection of bones of extinct mammals, as the result of several years' collecting in the banks and bed of the Brazos River—remains of a Pleistocene elephant, Megatherium, tapir, mastodon, and wide-horned bison, *Bison latifrons.* Thus there was discovered the rich San Felipe deposit of Pleistocene fossil mammals.[81] Stimulated by this find, countrymen on the Colorado River unearthed in a ravine two miles below Bastrop a large collection of molars, tusks, and bones of elephants, a collection that has been since lost.[82] In the winter of 1855-6 Dr. Charles Martin, surgeon, U. S. N., while he was attached to the Coast Survey purchased a collection of bones of the Mastodon, Megatherium, and elephant found in the bed of the Brazos in Fort Bend County.[83] All of these discoveries tended to awaken in Texans an interest in natural history.

During the years 1840-44 the German settlements in Washington County were considerably augmented by the arrival of a number of cultivated Germans, especially in the present towns of Shelby, Millheim, and Cat Spring. Baron Ottfried Hans von

[81]Huff had these on exhibition in 1845 in Galveston (where Roemer saw them), and later in that year sent them to New Orleans. W. M. Carpenter described them in a paper in the *American Journal of Science and Arts,* Ser. II, vol. 1, pp. 244-250, 1846. They went later to the British Museum. *See also* Hay, *The Pleistocene of the Middle Region of North America, and its Vertebrated Animals,* p. 156, 1924.

[82]Houston *Telegraph and Texas Register,* April, ?, 1840.

[83]Wyman, *Proceed. Boston Soc. Nat. Hist., 6*:51-55, Jan., 1857.

Meusebach (the "John O. Meusebach" of Texans) came to Texas with Prince von Solm's contingent in 1845. Meusebach had studied mining and natural science at the famous mining academy at Klausthal in the Harz Mountains. He brought with him to Texas a fine scientific library which Roemer used with appreciation.[84] Ferdinand von Roemer, later to be a distinguished professor of geology at the University of Breslau, lived in Texas during eighteen months of the years 1845-6. He made a comprehensive and surprisingly accurate survey of the state. Through his published papers and books on Texas he effectively called the attention of the scientific world to the Southwest. After the departure of von Roemer from America (he spent some months also in Tennessee, investigating the geology of that state), the German communities of Southwest Texas were visited by Prince Paul of Württemberg during his third journey to America. This was the interval 1849-56. Paul, nephew of King Frederick I of Württemberg, had received an excellent mathematical and scientific education, and was a botanist of some gifts. His journey to Texas, and his stay here, stimulated interest in the sciences throughout the German communities. Before his departure from Texas, Prince Paul expressed his surprise at the vigorous intellectual and cultural life among the German settlers, many of whom at the same time lived lives of hardship and poverty.

The native American stock did not furnish many students of natural history in Texas in the years from 1838 to 1858, and those who did show an interest in science are not be compared with their predecessors. In this interval Lincecum, Reverchon, and Buckley, all students of botany, came to make their homes in Texas. Lincecum came in 1848, from Mississippi. Self-taught, opinionated, but authentic in his inspiration and devoted to the truth, he collected plants and insects for students in the North, and made his interesting studies of the Agricultural Ant. Reverchon collected plants in a desultory way in northern and northwestern Texas. Buckley (1809-1884) was a graduate of Wes-

[84]For a biography of Meusebach (with portrait), see Biesele, *The History of the German Settlements in Texas, 1831-1861*, p. 123, 1930.

leyan University in Connecticut, and came to Texas after a checkered career in the South and the North. Having gained an equivocal success as a botanist, in 1859-60 he traveled to the Southwest, botanizing as he went. During the years 1860-61 he served as botanical collector with the Geological Survey of Texas.

Appointed to this position by Dr. B. F. Shumard, Buckley rewarded the man who had befriended him by secretly plotting against him. As a botanist, Buckley was possessed of slender gifts. He was State Geologist of Texas in 1866-7, and again in 1874-6, when the survey was terminated because of lack of results.

The last three naturalists who worked in Texas of the pioneer period (for the frontier may be said to have passed about 1880) were ripe and good ones: Shumard, the geologist; Belfrage, the entomologist; and Boll, the all-round naturalist. The last two have been dealt with in this series of essays: it remains to deal with Shumard. He came to Texas in 1858, a man not yet turned forty, with a long career of distinguished services, both as physician and geologist. In 1852 Shumard had served as paleontologist in explorations on the Red River under Captains R. B. Marcy and George B. McClellan; in 1853 he had assisted in the Swallow survey of Missouri. "He entered upon [his] great work [in Texas] with enthusiasm and in the hope and expectation of being able to carry it forward to completion. For two years he pursued it industriously and made a reconnaissance of the entire eastern and middle portions of the state. . . . The specimens collected during the continuance of the survey were arranged preparatory to writing his report, when General Houston, who had just been elected governor, removed him from office to make room for one of his political supporters.[85] A short time after the war . . . broke out, and put an end to geological surveys for the time in our country. Dr. Shumard returned to St. Louis[86] and with difficulty succeeded in rescuing his library from Austin after the close of

[85]Shumard insisted that he was dismissed while in the field; that he was given no intimation of impending dismissal; and that he was not allowed to complete his report. See, *passim*, Merrill, *The First Hundred Years of American Geology*, 1924.

[86]Winchell, "Benjamin Franklin Shumard", in *American Geologist*, vol. 4, pp. 1-6, 1889.

the war." Such was the treatment accorded to a geologist who, in addition to memberships in the chief scientific academies of America, could boast of corresponding memberships in the Geological Societies of London, of France, of Vienna, and of Darmstadt. In this the frontier was true to itself; in its fear and suspicion of the knowing specialist, and its political fiction that every man has a right to obtain by demand any appointive or elective office. It is interesting to note that President Houston appointed, in Shumard's stead, a cultivated gentleman with no knowledge of geology beyond what one would acquire during several years' editorship of a small newspaper.

They pass, these Naturalists of the Frontier, one by one, across the stage of history; some of them men of brain and heart and honor; others there are of whom we cannot speak with admiration. Yet they are not all to be gauged by the same standards; their environments, diverse and tortuous, helped to make them all. They were one in their devotion to the advancement of our common knowledge, and for their labors we are grateful. Their love for nature carried them through the difficulties and hardships of the frontier days; and much can be forgiven them, for they have loved much.

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